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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,417	02/05/2002	Joseph M. Brand	MI22-1939	4224

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SPOKANE, WA 99201-3828

EXAMINER
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GREENE, PERSHELLE L

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/072,417

Applicant(s)

BRAND, JOSEPH M.

Examiner

Pershelle Greene

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 41-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 41-50, 53-56 and 58-61 is/are rejected.
- 7) ☐ Claim(s) 51, 52 and 57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2826

Serial Number: 10/072417

Attorney's Docket #: M122-1939

Filing Date: 02/05/2002

Applicant: Brand, Joseph

Examiner: Pershelle Greene

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and the claims.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined

Art Unit: 2826

was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 41-50 and 53-56, and 58-61 rejected under 35 U.S.C. 102(e) as being anticipated by Corisis et al. (U.S. Patent # 6,284,571).

As to claim 41, Corisis et al. discloses lead frame assemblies with voltage reference plane and IC packages having all of the claimed subject matter:

- A. "a semiconductor die ... memory circuit" is met by the die 100 comprising a synchronous-link dynamic random access memory circuit shown in figure 1 and described in column 7 lines 8-16 of the specification;
- B. "a heat sink thermally coupled with the semiconductor die" is met by the die 200 thermally coupled to the heat sink 250 shown in figure 2; and
- C. "a housing encapsulating at least a portion of the heat sink" is met by the housing 208 encapsulating the heat sink 250 shown in figure 2.

As to claim 42, Corisis et al. shows, in figure 2, a lead 204 coupled with the semiconductor die 200 and the housing 208 encapsulating a portion of the lead.

As to claim 43, Corisis et al. shows, in figure 2, that the heat sink 250 has body and a lead 204 that is coupled to the body and configured to dissipate heat from the semiconductor die 200 externally of the housing.

As to claim 44, Corisis et al. shows, in figure 2, the housing 208 encapsulating at least a portion of one lead 204

Art Unit: 2826

As to claim 45-47, Corisis et al. shows, in figure 2, the housing 208 encapsulates the entire heat sink 250 and the semiconductor die 200.

As to claim 48, Corisis et al. discloses lead frame assemblies with voltage reference plane and IC packages having all of the claimed subject matter:

- A. "a housing ... memory circuit" is met by the housing 108 enclosing a semiconductor die 100 comprising a memory circuit shown in figure 1 and described in column 7 lines 8-16 of the specification; and
- B. "a heat sink ... outside the housing" is met by the heat sink 250 positioned in heat-receiving relation with the semiconductor die 200 and configured to release heat outside the housing 208.

As to claim 49, Corisis et al. shows, in figure 2, the heat sink 250 comprising at least one lead 204 configured to conduct heat externally of the housing 208.

As to claim 50, Corisis et al. teaches, in column 5 lines 34-47, that the housing forms one of a vertical surface mounted package and a horizontal surface mounted package.

As to claim 48, Corisis et al. discloses lead frame assemblies with voltage reference plane and IC packages having all of the claimed subject matter:

- A. "a first lead frame" is met by the lead frame 204 on the right side of the package shown in figure 2;
- B. "a semiconductor die secured to the first lead frame" is met by the semiconductor die 200 secured to the first lead frame 204 on the right side of the package shown in figure 2;

Art Unit: 2826

- C. "a second lead frame comprising a heat sink thermally coupled with the semiconductor die" is met by the second lead frame 204 on the left side of the package comprising a heat sink 250 thermally coupled with the semiconductor die 200 shown in figure 2; and
- D. "a housing formed about at least portions of the semiconductor die and heat sink" is met by the housing 208 formed about at least portions of the semiconductor die 200 and the heat sink 250 shown in figure 2.

As to claim 54, Corisis et al. shows, in figure 2, the housing 208 comprises an encapsulant housing 208.

As to claim 55, Corisis et al. teaches, in column 7 lines 8-16, a semiconductor die 100 comprising a memory circuit.

As to claim 56 and 58, Corisis et al. shows, in figure 2, the housing 208 having leads 204 that extend outwardly exposed relative to the housing. The leads 204 are bent to provide horizontal mounting of the integrated circuit device.

As to claim 59, Corisis et al. teaches, in column 5 lines 34-47, that the housing forms one of a vertical surface mounted package and a horizontal surface mounted package.

As to claim 60 and 61, Corisis et al. shows, in figure 2, the housing 208 encapsulates the entire heat sink 250 and the semiconductor die 200.

### ***Claim Objections***

5. Claims 51, 52 and 57 are objected to as being dependent upon a rejected base claim.

Art Unit: 2826

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pershelle Greene whose telephone number is 703-305-3870. The examiner can normally be reached on M-F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 703-308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PLG  
August 8, 2002

NATHAN J. FLYNN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

